

WHAT IS CLAIMED IS:

- 1 1. A man-machine interface method for assisting a user
2 in a decision making process, for use with a machine
3 having a video monitor device and a user input device,
4 the man-machine interface method comprising steps of:
 - 5 a) accepting an event from the user input device;
 - 6 and
 - 7 b) generating a display for output on the video
8 monitor device, the display including
 - 9 i) a first window displaying first information
 - 10 of a first type, the first information being
 - 11 related to the event, and
 - 12 ii) a second window displaying second
 - 13 information of a second type, the second
 - 14 information being related to the event.
- 1 2. The man-machine interface method of claim 1 wherein
2 the display generated simulates a three-dimensional
3 environment in which the first and second windows reside.
- 1 3. The man-machine interface method of claim 2 wherein
2 the first and second windows are represented as sides of
3 an unfolded geometric object.
- 1 4. The man-machine interface method of claim 2 wherein
2 the first and second windows are represented as sides of
3 an unfolded cube.

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1 5. The man-machine interface method of claim 2 wherein
2 each of the first and second windows include a maximize
3 button,

4 wherein when the maximize button of the first window
5 is selected, a display having the first window, arranged
6 in normal, head-on, view, is generated, and

7 wherein when the maximize button of the second
8 window is selected, a display having the second window,
9 arranged in normal, head-on, view, is generated.

1 6. The man-machine interface method of claim 1 further
2 comprising a step of:

3 c) generating a visual indicator for associating
4 the first information of the first window and the
5 second information of the second window.

1 7. The man-machine interface method of claim 6 wherein
2 the visual indicator is selected from a group of visual
3 indicators consisting of (a) a colored line, (b) a
4 colored ray, and (c) a colored arc.

1 8. The man-machine interface method of claim 7 wherein
2 the visual indicator is translucent.

1 9. The man-machine interface method of claim 1 wherein
2 the first window includes alternative representations of
3 the first information, each of which is related to the
4 event.

1 10. The man-machine interface method of claim 9 wherein
2 the first window depicts a calendar having a number of
3 alternative time sequences, wherein the alternative
4 representations of the first information may be an
5 alternative time duration on each of the alternative time
6 sequences.

1 11. The man-machine interface method of claim 1 further
2 comprising a step of:
3 c) forming a search query based, at least in part,
4 on contents of the event.

1 12. The man-machine interface method of claim 11 wherein
2 the search query is further based, at least in part, on a
3 user profile.

1 13. The man-machine interface method of claim 11 further
2 comprising steps of:
3 d) returning a result of the search query;
4 e) determining whether the result includes any
5 information of the first type or of the second type;
6 and
7 f) if the result includes any information of the
8 first type, generating a visual representation of
9 such information on the first window, and if the
10 result includes any information of the second type,
11 generating a visual representation of such
12 information on the second window.

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1 14. The man-machine interface method of claim 1 wherein
2 the first window is a bulletin board, and
3 wherein a note, having contents entered by a user,
4 is arranged on the bulletin board and defines the event.

1 15. The man-machine interface method of claim 1 wherein
2 the first window is a map, and
3 wherein a place of the map related to the event
4 includes a marker.

1 16. The man-machine interface method of claim 15 wherein
2 the marker is a colored circle.

1 17. The man-machine interface method of claim 16 wherein
2 the marker is translucent.

1 18. The man-machine interface method of claim 16 wherein
2 the second window is a bulletin board,
3 wherein a note, having contents entered by a user,
4 is arranged on the bulletin board, defines the event, and
5 has a color which matches the color of the marker.

1 19. The man-machine interface method of claim 1 wherein
2 the first window is an information browser.

1 20. The man-machine interface method of claim 19 further
2 comprising a step of:
3 c) forming a search query based, at least in part,
4 on contents of the event.

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1 21. The man-machine interface method of claim 20 wherein
2 the search query is further based, at least in part, on a
3 user profile.

1 22. The man-machine interface method of claim 20 further
2 comprising steps of:

3 d) submitting the search query to the information
4 browser;
5 e) returning a result of the search query;
6 f) determining whether the result includes any
7 information of the second type; and
8 g) if the result includes any information of the
9 second type, generating a visual representation of
10 such information on the second window.

1 23. The man-machine interface method of claim 22 wherein
2 the information browser is selected from a group
3 consisting of (a) a browser for browsing HTML pages, (b)
4 a browser for browsing documents, (c) a browser for
5 browsing databased files, (d) a browser for browsing a
6 schedule, (e) a browser for browsing a to do list, and
7 (f) a browser for browsing contacts.

1 24. The man-machine interface method of claim 22 wherein
2 the second window is a map, and
3 wherein information of the second type includes
4 places and addresses.

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1 25. A man-machine interface for assisting a user in a
2 decision making process, for use with a machine having a
3 video monitor device and a user input device, the
4 man-machine interface comprising:

5 a) a standby state in which a display including a
6 simulated three dimensional environment having
7 i) a first window displaying first information
8 of a first type, the first information defining
9 an event, and
10 ii) a second window displaying second
11 information of a second type, the second
12 information being related to the event,
13 is generated for rendering on the video monitor
14 device;

15 b) a first window update state during which the
16 user can update the first window by entering
17 commands via the user input device;

18 c) a second window update state during which the
19 user can update the second window by entering
20 commands via the user input device;

21 d) a first window focus view state in which a
22 display including the first window, arranged in a
23 normal head-on view, is generated for rendering on
24 the video monitor device; and

25 e) a second window focus view state in which a
26 display including the second window, arranged in a
27 normal head-on view, is generated for rendering on
28 the video monitor device.

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1 26. The man-machine interface of claim 25 wherein, when
2 in the standby state,

- 3 i) if a first user command is received from
4 user input device, the first window update
5 state is entered,
- 6 ii) if a second user command is received from
7 user input device, the second window update
8 state is entered,
- 9 iii) if a third user command is received from
10 user input device, the first window focus view
11 state is entered, and
- 12 iv) if a fourth user command is received from
13 the user input device, the second window focus
14 view state is entered.

1 27. The man-machine interface of claim 26 wherein the
2 first user command is locating a cursor over the first
3 window, the second user command is locating a cursor over
4 the second window, the third user command is clicking a
5 maximize button of the first window, and the fourth user
6 command is clicking a maximize button of the second
7 window.

1 28. The man-machine interface of claim 26 wherein each
2 of the first window focus view state and the second
3 window focus view state include a world-in-miniature tool
4 which includes a representation of the standby state.

1 29. The man-machine interface of claim 26 wherein, when
2 in the first window focus view state,

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3 i) if a first user command is received from the
4 input device, the standby state is entered, and
5 ii) if a second user command is received from the
6 input device, the second window focus view state is
7 entered.

1 30. The man-machine interface of claim 29 wherein the
2 first user command is a click on a minimize button on the
3 first window and the second user command is a flicking
4 gesture.

Spec

1 31. A method for managing a man-machine interface,
2 including
3 - a first window for displaying first information
4 of a first type, the first information being related
5 to an event, and
6 - a second window for displaying second information
7 of a second type, the second information being
8 related to the event,
9 for assisting a user in a decision making process, for
10 use with a machine having a video monitor device and a
11 user input device, the method comprising steps of:
12 a) accepting user commands from the user input
13 device;
14 b) updating states of the first and second windows
15 based on the user commands accepted;
16 c) determining a state of the man-machine interface
17 based on the user commands accepted; and

18 d)
19 i) if the state of the man-machine interface
20 is a standby state,
21 A) generating a display of a three
22 dimensional environment including the
23 first and second windows for rendering on
24 the video monitor device, and
25 B) generating a visual link from the
26 first information in the first window to
27 the second information in the second
28 window,
29 ii) if the state of the man-machine interface
30 is a first window focus view state, generating
31 a display of the first window in a normal, head
32 on, view, and
33 iii) if the state of the man-machine interface
34 is a second window focus view state, generating
35 a display of the second window in a normal,
36 head on, view.

1 32. The method of claim 31 wherein the step of updating
2 states of the first and second windows based on the user
3 commands accepted includes steps of:
4 i) generating an query based on at least one
5 of the (a) the user inputs and (b) a user
6 profile;
7 ii) processing the query to generate a return;
8 and
9 iii) determining whether the return includes
10 information of the first type or information of

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a) the second type, wherein if the return includes information of the first type, the first window is updated, and wherein if the return includes information of the second type, the second window is updated.

1 33. The method of claim 31 wherein the first window is a
2 bulletin board, and wherein the step of updating states
3 of the first and second windows based on the user
4 commands accepted includes steps of:

- 5 i) determining whether a cursor is on the
6 first window and if so,
 - 7 A) determining whether a note creation
8 command was entered and if so, accepting
9 text via the user input device;
 - 10 B) determining whether a note edit
11 command was entered and if so, editing a
12 note based on entries from the user input
13 device;
 - 14 C) determining whether a note posting
15 command was entered and if so,
 - 16 - generating a query based on the
17 contents of the note,
 - 18 - processing the query to generate a
19 return, and
 - 20 - determining whether the return
21 includes any information of the
22 second type and if so, updating the
23 second window; and

24 D) determining whether a note move
25 command was entered and if so, updating a
26 location of the note on the bulletin
27 board.

1 34. The method of claim 33 wherein the note creation
2 command is a mouse click when a cursor is located over an
3 empty part of the bulleting board,

4 wherein the note edit command is a mouse click when
5 a cursor is located over an existing note on the bulletin
6 board,

7 wherein a note posting command is a flicking
8 gesture, and

9 wherein a note move command is a mouse drag.

1 35. The method of claim 33 wherein, if one of a note
2 creation command and a note edit command is entered,
3 further performing a step of displaying the note in a
4 normal, head on, view in a foreground of the three
5 dimensional environment.

1 36. The method of claim 31 wherein the first window is a
2 map,

3 wherein the map includes a marker at a location
4 associated with the event, and

5 wherein the step of updating states of the first and
6 second windows based on the user commands accepted
7 includes steps of:

i) determining whether a cursor is on the first window and if so,

10 A) determining whether a marker delete
11 command is entered and if so, deleting the
12 marker from the map, and
13 B) determining whether a marker move
14 command is entered and if so, moving the
15 marker on the map.

1 37. The method of claim 36 wherein if a marker move
2 command is entered, the event is updated to reflect its
3 new location.

1 38. The method of claim 31 wherein the first window is a
2 calendar,
3 wherein the calendar includes a number of
4 alternative time lines,
5 wherein the calendar includes an interval at a date
6 associated with the event, in each of the alternative
7 time lines, and
8 wherein the step of updating states of the first and
9 second windows based on the user commands accepted
10 includes steps of:
11 i) determining whether a cursor is on the
12 first window and if so,
13 A) determining a selected one of the
14 alternative time lines,
15 B) determining whether an interval in the
16 selected one of the alternative time lines
17 is subject to a move command and if so,
18 moving the interval,

1 39. The method of claim 31 wherein if the state of the
2 man-machine interface is the standby state, and if the
3 first window is maximized, the first window focus view
4 state is entered, and

5 wherein if the state of the man-machine interface is
6 the standby state, and if the second window is maximized,
7 the second window focus view state is entered.

1 40. The method of claim 31 wherein if the state of the
2 man-machine interface is the first window focus view

3 state, and if the first window is minimized, the standby
4 state is entered, and

5 wherein if the state of the man-machine interface is
6 the first window focus view state, and if a flicking
7 gesture is entered, the second window focus view state is
8 entered.

1 41. A system for assisting a user in a decision making
2 process, the system comprising:

- 3 a) an input facility for accepting user inputs;
- 4 b) a processing facility for
 - 5 i) accepting user inputs from the input
6 facility,
 - 7 ii) determining an event based on user inputs
8 from the input facility,
 - 9 iii) determining first information of a first
10 type, the first information being related to
11 the event,
 - 12 iv) determining second information of a second
13 type, the second information being related to
14 the event,
 - 15 v) determining a first window including a
16 visual representation of the first information,
 - 17 vi) determining a second window including a
18 visual representation of the second
19 information,
 - 20 vii) generating a simulated three dimensional
21 environment,
 - 22 viii) determining a display state based on user
23 inputs from the input facility, and

24 ix) generating video outputs including
25 A) the first and second windows arranged
26 in the simulated three dimensional
27 environment when a first display state is
28 determined,
29 B) the first window, in a normal, head
30 on, view when a second display state is
31 determined, and
32 C) the second window, in a normal, head
33 on, view when a third display state is
34 determined; and
35 c) a video monitor unit for rendering the video
36 outputs generated by the processing facility.

1 42. The system of claim 41 wherein the processing
2 facility further updates states of the first and second
3 windows based on the user commands accepted by the input
4 facility.

1 43. The system of claim 42 wherein the processing
2 facility updates states of the first and second windows
3 by:

4 i) generating an query based on at least one
5 of the (a) the user inputs and (b) a user
6 profile;

9 iii) determining whether the return includes
10 information of the first type or information of
11 the second type, wherein if the return includes

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13 *(a)*
12 information of the first type, the first window
13 is updated, and wherein if the return includes
14 information of the second type, the second
15 window is updated.

1 44. The system of claim 42 wherein the first window is a
2 bulletin board, and wherein the processing facility
3 updates states of the first and second windows by:
4 i) determining whether a cursor is on the
5 first window and if so,
6 A) determining whether a note creation
7 command was entered and if so, accepting
8 text via the user input device;
9 B) determining whether a note edit
10 command was entered and if so, editing a
11 note based on entries from the user input
12 device;
13 C) determining whether a note posting
14 command was entered and if so,
15 - generating a query based on the
16 contents of the note,
17 - processing the query to generate a
18 return, and
19 - determining whether the return
20 includes any information of the
21 second type and if so, updating the
22 second window; and
23 D) determining whether a note move
24 command was entered and if so, updating a

25 *a* location of the note on the bulletin
26 board.

1 45. The system of claim 44 wherein the note creation
2 command is a mouse click when a cursor is located over an
3 empty part of the bulletin board,

4 wherein the note edit command is a mouse click when
5 a cursor is located over an existing note on the bulletin
6 board,

7 wherein a note posting command is a flicking
8 gesture, and

9 wherein a note move command is a mouse drag.

1 46. The system of claim 44 wherein, if one of a note
2 creation command and a note edit command is entered, the
3 note is displayed, on the video monitor, in a normal,
4 head on, view in a foreground of the three dimensional
5 environment.

1 47. The system of claim 42 wherein the first window is a
2 map.

3 wherein the map includes a marker at a location
4 associated with the event, and

5 wherein the processing facility updates states of
6 the first and second windows by:

i) determining whether a cursor is on the first window and if so

9 A) determining whether a marker delete
10 command is entered and if so, deleting the
11 marker from the map, and

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12 B) determining whether a marker move
13 command is entered and if so, moving the
14 marker on the map.

1 48. The system of claim 47 wherein if a marker move
2 command is entered, the processing facility updates the
3 event to reflect its new location.

1 49. The system of claim 42 wherein the first window is a
2 calendar,

3 wherein the calendar includes a number of
4 alternative time lines,

5 wherein the calendar includes an interval at a date
6 associated with the event, in each of the alternative
7 time lines, and

8 wherein the processing facility updates states of
9 the first and second windows by:

10 i) determining whether a cursor is on the
11 first window and if so,

12 A) determining a selected one of the
13 alternative time lines,

14 B) determining whether an interval in the
15 selected one of the alternative time lines
16 is subject to a move command and if so,
17 moving the interval,

18 C) determining whether an interval in the
19 selected one of the alternative time lines
20 is subject to a lengthen command and if

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so, lengthening the duration of the
interval,

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D) determining whether an interval in the
selected one of the alternative time lines
is subject to a shorten command and if so,
shortening the duration of the interval,

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E) determining whether an interval in the
selected one of the alternative time lines
is subject to a deletion command and if
so, deleting the interval, and

31

F) determining whether an interval
creation command is entered and if so,
generating an interval in at least the
selected one of the alternative time
lines.

1 50. A tangible medium storing or communicating machine
2 readable instructions which, when executed by a machine,
3 performs steps of:

4 a) accepting an event from the user input device;
5 and

6 b) generating a display for output on the video
7 monitor device, the display including
8 i) a first window displaying first information
9 of a first type, the first information being
10 related to the event, and
11 ii) a second window displaying second
12 information of a second type, the second
13 information being related to the event.